

Tankless Water Heaters

Choosing a more efficient water heater for your home not only saves money on your gas or electric bill, but it also conserves the amount of water you use. As a result, tankless water heaters are becoming more popular. This guide explains what tankless water heaters are, how much energy they save and how to pick the right one for your home.

According to the U.S. Department of Energy (DOE), water heating represents one-fifth of U.S. residential energy consumption, so it's definitely worth investing the time and effort in researching different water heating options.

How they work

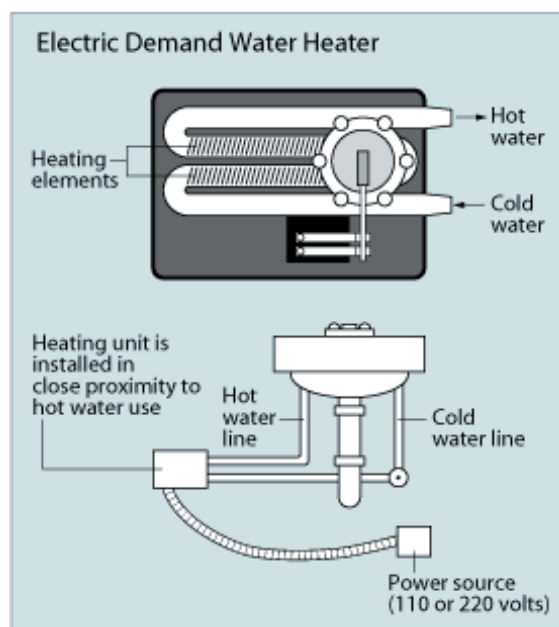
Demand water heaters heat water directly without the use of a storage tank. Therefore, they avoid the standby heat losses associated with storage water heaters. When a hot water tap is turned on, cold water travels through a pipe into the unit. Either a gas burner or an electric element heats the water. As a result, tankless water heaters deliver a constant supply of hot water. You don't need to wait for a storage tank to fill up with enough hot water. However, a conventional water heater's output limits the flow rate.

Typically, demand water heaters provide hot water at a rate of two to five gallons (7.6–15.2 liters) per minute. Gas-fired demand water heaters produce higher flow rates than electric ones. Sometimes, however, even the largest, gas-fired model cannot supply enough hot water for simultaneous, multiple uses in large households. For example, taking a shower and running the dishwasher at the same time can stretch a demand water heater to its limit. To overcome this problem, you can install two or more demand water heaters connected in parallel for simultaneous demands of hot water. You can also install separate demand water

heaters for appliances—such as a clothes washer or dishwasher—that use a lot of hot water in your home.

Energy savings

For homes that use 41 gallons or less of hot water daily, tankless water heaters can be 24 to 34 percent more energy efficient than conventional storage tank water heaters. They can be eight to 14 percent more energy efficient for homes that use a lot of hot water—around 86 gallons per day. You can achieve even greater energy savings (27 to 50 percent) if you install a tankless water heater at each hot water outlet.



Selecting a tankless water heater

Because the cost of gas is generally lower than electricity, gas tankless systems are usually cheaper; they also tend to have higher flow rates than electric systems.

Keep in mind that your investment in a new water heater is comprised of two costs: an initial investment and an operating cost. While its initial cost is typically more expensive than a conventional unit, a tankless water heater will save you considerable money and energy during its lifetime.

When selecting your tankless water heater, compare and contrast flow rates between models. To calculate your peak demand, make a list of how many hot water devices you expect to have open at one time and add up their flow rates. Figure at least two gallons per shower, about one gallon per faucet, and about one to two gallons per dishwasher and clothes washer you want running at the same time.

Consider the size of gas line and vents needed to run your tankless heater choices and the costs associated with conversion.

Finally, find out what the servicing needs are, who is available to service it, and if replacement parts are readily available.

Look for the E!

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Resources

The DOE provides consumer fact sheets at www.eere.energy.gov/consumerinfo

You can also find information at:

www.builderswebservice.com

Major Gas Tankless Water Heater Manufacturers:

Bosch - www.boschhotwater.com

Noritz America - www.noritzamerica.com

Paloma Industries - www.palomaindustries.com

Rinnai Corporation - www.rinnai.us

Takagi Industrial Co. USA, Inc. - www.takagi-usa.com



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